

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF ONE OF THE CONTRACT DRAWINGS CONSTITUTING A PART OF CONTRACT NO. WTC-802.07 IN THE FORM IN WHICH SAID DRAWINGS EXISTED AT THE TIME THE SAID CONTRACT WAS EXECUTED BY THE PARTIES.

DATE 6/21/95 Sultan A. Aslam
SPEC. WRITER

DATE 8/15/95 Peter K. Swiney
ENGINEER OF DESIGN

1. - FOR LEGEND SEE DWG. #E-1, FOR GENERAL NOTES AND ABBREVIATIONS SEE DWG. #E-2.
2. - FOR NUMBER AND SIZE OF CONDUIT & WIRE SEE:
 - DWG. #E-27 - CONDUIT AND CABLE SCHEDULE
 - DWG. #E-29 - A.T.S. CONNECTION DIAGRAM
3. - SHUTTLE ELEVATORS #1, 3, 9, & 11 WILL BE WITHOUT POWER DURING THIS OUTAGE.
 SHUTTLE ELEVATORS #2, 4, 8, & 10 FED FROM SUBSTATION 5S-41N ALL PROVIDE SERVICE TO THE 44TH FLOOR LBBY.
4. - CONDUIT CABLE AND BUSWAY DESCRIBED IN SCHEDULE STAGE II STEP (1) SHALL BE INSTALLED PRIOR TO ENERGIZING BUS #3 & 4.
5. - SCHEDULE STAGE III STEP (1) & (M) SHALL BE INSTALLED WITH SWITCHGEAR ENERGIZED.
6. - ALL ELECTRICAL OUTAGES SHALL BE PERFORMED OUTSIDE NORMAL BUILDING OPERATING HOURS. SEE SPECIFICATIONS DIVISION 1 ENTITLED "CONDITIONS AND PREVISIONS" FOR DETAILED DESCRIPTION OF ELECTRICAL POWER OUTAGE CATEGORIES.

—(SEE NOTE #5

SCHEDULE STAGE III. STEP (L) & (M)
TRANSFER LOADS L-3 & R-1

- L-3** **208/120V TRANSF. ELEC CLOS "S" 59-74th FL'R'S**
- a. - INSTALL TRANSFORMER "L-3" WITH CB-13.
 - b. - INSTALL **L-3** COT. & WIRE FROM SWGR. BUS #4 TO TRANSF. "L-3" (CONNECT AT TRANSF.)
 - c. - INSTALL BUSWAY **L-3a** FROM CB-13, END AT BUSWAY
 - d. - REMOVE EXIST BUSWAY EXIST. TRANSF. "L-3".
 - e. - INSTALL BUSWAY TRANSITION BOX ON EXIST. BUSWAY & CONNECT BUSWAY **L-3a**.
 - f. - DISCONNECT EXIST. FDR. **L-3** **1-TIME** AND CONNECT FDR. **L-3** AT SWGR. (ENERGIZE)
 - g. - REMOVE EXIST. TRANSF. "L-3", DISC. SW. AND FDR. (**L-3** **1-TIME**) TO SWGR.
- R-1** **208/120V TRANSF. ELEC CLOS "S" 77-93rd FL'R'S**
- a. - INSTALL TRANSFORMER "R-1" WITH CB-81.
 - b. - INSTALL **R-1** COT. & WIRE FROM SWGR. BUS #2 TO TRANSF. "R-1". (CONNECT AT TRANSF.)
 - c. - INSTALL BUSWAY **R-1a** FROM CB-81, END AT BUSWAY
 - d. - REMOVE EXIST BUSWAY TO EXIST. TRANSF. "R-1".
 - e. - INSTALL BUSWAY TRANSITION BOX ON EXIST. BUSWAY & CONNECT BUSWAY **R-1a**.
 - f. - DISCONNECT EXIST. FDR. **R-1** **1-TIME** AND CONNECT FDR. **R-1** AT SWGR. (ENERGIZE)
 - g. - REMOVE EXIST. TRANSF. "R-1", DISC. SW. AND FDR. (**R-1** **1-TIME**) TO SWGR.

LOAD OUTAGES - SEE NOTE #10
* = CATEGORY "A" OR "B"

STAGE II STEP ① - DWG #E-5
EXCEPT AS NOTED

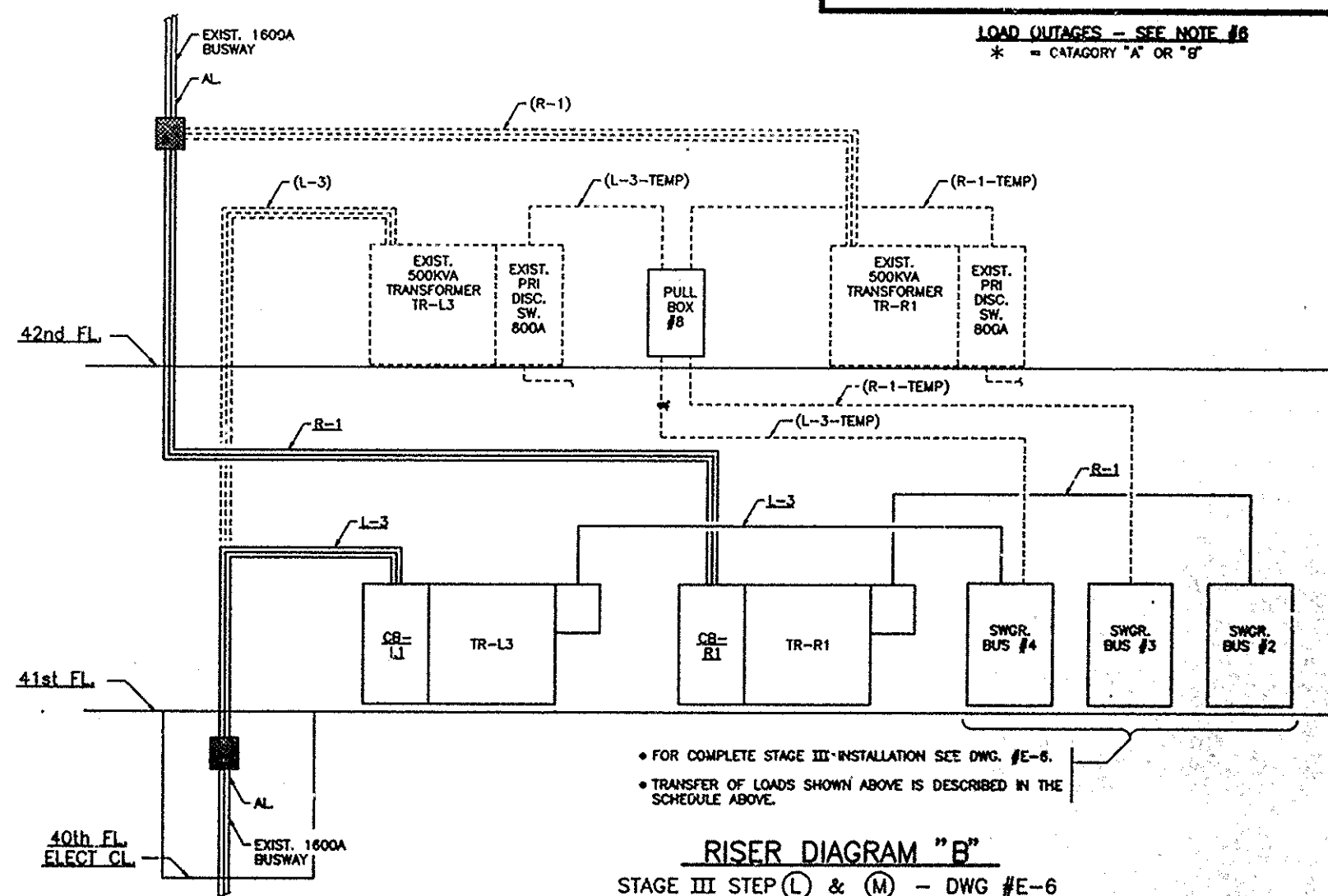
-(SEE NOTE #4)

SCHEDULE STAGE II STEP (I) - TRANSFER LOADS TO BUS #3 & 4

LOAD OUTAGES SEE NOTE #6
 * = CATEGORY "A" OR "B"
 ** = CATEGORY "C"

- CONDUIT
DESIGNATION
- SHUTTLE ELEVATORS —
- CONTROL FOR SHUTTLE & BANK ELEVATORS
- CDTS. # C-7, C-9, C-5, & C-13
- a. — INSTALL C-7 & WIRE FROM SHUTTLE & BANK ELEVATOR TRANSFER SWITCHES AS SHOWN ABOVE
 - b. — CONNECT ALL CONTROL WIRES AS SHOWN ON DWG. FE-97 LEGEND — \diamond
- 1-1 NORMAL FEEDER TO SHUTTLE ELEV.
- a. — INSTALL 1-1 CDT & WIRE FROM SWGR. BUS #3 TO TRANSFER SWITCH
 - b. — INSTALL CDT & WIRE 1-1 FROM TRANSFER SWITCH TO P.B. #9.
 - c. — CUT EXIST. FDR. IN P.B. #9 AND SPLICE. (ENERGIZE)
 - d. — REMOVE EXIST. FDR. BACK TO SWGR.
- SEE
NOTE
{
#3
- A-2 EMERG. FEEDER TO SHUTTLE ELEV.
- a. — INSTALL A-2 CDT & WIRE FROM TRANSFER SWITCH TO P.B. #3.
 - * — CUT EXIST. FDR. IN "9. #3 AND INSTALL "F SPLICE. (ENERGIZE)
 - c. — REMOVE EXIST. & CONNECT CONTROL WIRING DESIGNATED \diamond ON DWG. FE-97.
 - d. — REMOVE EXIST. FDR. (A-2) & CONTROL WIRES BACK TO EXIST. ELEV. TRANSFER SWITCH
- 1-2 MOTOR CONTROL — MCC "1"
- a. — INSTALL 1-2 CDT & WIRE FROM SWGR. BUS #6 TO MCC-S-41L
 - b. — DISCONNECT EXIST. & CONNECT 1-2 AT MCC-S-41L. (ENERGIZE)
 - c. — REMOVE EXIST. FDR. & CDT. 1-2 BACK TO SWGR.
- 1-3-TEMP 208/120V. TRANSF. ELCC CLOS "S" 25-40H. FLIR'S
- a. — INSTALL 1-3-TEMP CDT & WIRE FROM SWGR. BUS 4 TO 500KVA TRANSFORMER VIA P.B. #9
 - * — DISCONNECT EXIST. & CONNECT FOR 1-3-TEMP AT TRANSFORMER (ENERGIZE)
 - c. — REMOVE EXIST. FDR. 1-3 BACK TO SWGR.

- R-1-TEMP** 208/120V TRANSF. ELEC CLOS "S" 43-58th FLR'S.
- a. — INSTALL R-1-TEMP CDT & WIRE FROM SWGR. BUS 4 TO TRANSFER SWITCH VIA P.B. #18
 - * — b. — DISCONNECT EXIST. & CONNECT FOR R-1-TEMP AT TRANSFORMER (ENERGIZE)
 - c. — REMOVE EXIST. FDR. R-1 BACK TO SWGR.
- 1-4b** 480/277V. ELEC CLOS "S" 25th TO 40th FLR'S
- FUTURE RUN 33rd THRU 40th FLR'S**
- a. — INSTALL BUSWAY 1-4b FROM SWGR. BUS #3 TO END CAP & "T" TO EXIST BUSWAY 1-4.
 - * { b. — REMOVE EXISTING BUSWAY 1-4 TO EXIST SWGR. REMOVE BACK TO EXIST. SWGR. CAP BUSWAY.
 - c. — INSTALL BUSWAY TRANSITION BOX ON EXIST. BUSWAY & CONNECT BUSWAY 1-4b. (ENERGIZE)
- 1-4a** 480/277V. ELEC CLOS "S" FUTURE 25th TO 32nd FLR'S
- a. — INSTALL BUSWAY 1-4a FROM SWGR. BUS #4 TO END CAP.
- 1-BT** NORMAL FEEDER TO FIRE PUMP A.T.S. & CONTROLLER
- a. — INSTALL 1-BT CDT & WIRE FROM SWGR. BUS #4 TO TRANSFER SWITCH
 - b. — INSTALL 1-BT CDT & WIRE FROM FIRE PUMP A.T.S. TO FIRE PUMP CONTROLLER
 - * — c. — DISCONNECT EXIST. & CONNECT FOR 1-BT AT CONTROL. (ENERGIZE)
 - d. — DISCONNECT EXIST. & CONNECT CONTROL WIRING DESIGNATED
- (X) ON DWG #E-97
- e. — REMOVE EXIST. FDR. 1-BT BACK TO SWGR.
- B-6** EMERG. FEEDER TO FIRE PUMP A.T.S.
- a. — CUT EXIST. EMPTY CDT. (X) — 2 CDT'S & REMOVE BACK TO EXISTING SUBSTATION.
 - b. — INSTALL CDT. B-6 FROM TRANSFER SWITCH TO EXIST. (X) CDT'S.
 - c. — INSTALL FDR. B-6 FROM TRANSFER SWITCH TO EXIST. PANEL EPC-41A.
 - * — d. — DISCONNECT EXIST. & CONNECT FOR B-6 IN A.T.S. # TS-41SL. (ENERGIZE)
- 1-2** DINING FACILITY
- a. — INSTALL P.B. #15 ADJACENT TO EXIST P.B. #14
 - b. — INSTALL 1-2 CDT & WIRE BETWEEN P.B. #15 & SWGR. BUS
 - * { c. — CUT EXIST. FDR. (1-2) IN P.B. #14 & REMOVE BACK TO EXIST. SWGR.
 - d. — SPUCE TO EXIST FDR (1-2) IN P.B. #14 (ENERGIZE)



- FOR COMPLETE STAGE III INSTALLATION SEE DWG. #E-8.
- TRANSFER OF LOADS SHOWN ABOVE IS DESCRIBED IN THE SCHEDULE ABOVE.

RISER DIAGRAM "B"

STAGE III STEP (L) & (M) - DWG #E-6



**THE PORT AUTHORITY
OF NY & NJ**

Peter K. Sweeney
ENGINEERING PROGRAM MANAGER
WORLD TRADE CENTER

Joe M. Ricciardi
CHIEF ELECTRICAL ENGINEER

Engineering Department
Design Division

The World Trade Center Electrical/HVAC Upgrade Program

Title
TOWER ONE AND TWO
LOW VOLTAGE
SUBSTATIONS
CONSTRUCTION AND
INSTALLATION
ELECTRICAL

SUBSTATION SS-41S STAGE II & III LOAD TRANSFER SCHEDULE AND RISER DIAGRAM

| No. | Date | Revision | Approved |
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| LEAHY/ FISCHER | LEAHY | A.S. |
| Designed by | Drawn by | Checked by |

Date 5-1-85 Scale AS NOTED

Contract Number Drawing Number

WTC 802.071 E-32